

REMARKS

The claimed method, product, and composition comprise a mineral wool to which a size comprising a thermosetting resin and a hydrophilic latex is applied. The size is thermally cured. The claimed hydrophilic latex comprises either: 1) a dispersion or emulsion of a homopolymer or copolymer having at least one hydrophilic functional group on each monomer unit, or 2) a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

The rejection of the claims under 35 U.S.C. § 103(a) over the combination of Bondoc and Steinkopf is respectfully traversed. Neither Bondoc nor Steinkopf describe the hydrophilic latex of the claimed invention, and therefore the Examiner has failed to properly support a *prima facie* case of obviousness.

Bondoc describes glass fiber mats “composed of a plurality of glass fibers held together by an improved binder comprising about 25% to 95% by weight of urea-formaldehyde resin and about 10% to 75% by weight of a styrene-butadiene latex copolymer containing about 0.1% to 5% by weight of acrylamide, methacrylamide, N-methylol acrylamide, N-methylol methacrylamide, or mixtures thereof” (col. 1, lines 47-52). Applicants note that the amount of acrylamide-type monomer in the copolymer of Bondoc is quite small, and therefore the modified styrene-butadiene latex copolymer of Bondoc has monomer units (i.e., styrene and butadiene) which lack the hydrophilic functional groups (i.e., hydroxyl, carboxyl, or ester) of the claimed hydrophilic latex. Furthermore, Bondoc fails to describe a hydrophilic latex in which a dispersed or emulsified polymer is combined with a “protective colloid having hydrophilic functional groups”. Applicants note that *each* of the monomers of the claimed homo- or copolymer must have “at least one” hydrophilic

functional group, *or* the dispersed polymer must be combined with a hydrophilic protective colloid. Thus, Bondoc fails to describe the claimed hydrophilic latex.

As discussed above, Bondoc describes a relatively hydrophobic copolymer (i.e., a styrene-butadiene latex) modified with a small amount of hydrophilic monomer (e.g., acrylamide), whereas the claimed latex is expressly “hydrophilic”, and comprises either a homo- or copolymer having a hydrophilic functional group on *each* monomer unit, or a dispersed or emulsified polymer combined with a “protective colloid having hydrophilic functional groups”. Hydrophilic polymers or protective colloids would reasonably be expected to have quite different properties in wet environments compared to the relatively hydrophobic copolymers of Bondoc. Moreover, one would normally expect that hydrophilic lattices, such as those of the claimed invention would have a detrimental effect on the performance of compositions used in wet environments. However, Applicants have surprisingly found that the claimed hydrophilic latex provides improved performance when used in binders for fibrous insulation products (see, for example, the specification at page 4, lines 19-35). Accordingly, Bondoc also fails to suggest the claimed invention.

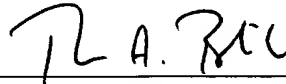
Steinkopf fails to remedy the deficiencies of Bondoc, since Steinkopf also fails to describe the claimed hydrophilic latex. Steinkopf simply describes mineral fiber compositions which are decomposable in a physiological medium. Thus, the combination of Bondoc and Steinkopf would provide a fiber mat comprising the decomposable mineral fibers of Steinkopf with the binder composition of Bondoc which lacks hydrophilic groups on each of the monomers of the latex polymer. Accordingly, the combination of Bondoc and Steinkopf neither anticipates nor suggests the claimed invention.

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Accordingly, and for the reasons stated above, Applicants respectfully request that the rejection be withdrawn. Early notification to this effect is respectfully requested.

Respectfully submitted,

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